

REMARKS

The Applicants have carefully reviewed the Office Action mailed June 22, 2010 and thank Examiner Saad for her detailed review of the pending claims. In response to the Office Action, Applicants have amended claims 1, 24 and 31. Support for the amendments to claims 1 and 31 may be found at least in Paragraph [0026] of the application. Claim 24 has been amended to correct antecedent basis. No new matter has been added. Accordingly, claims 1 and 19, 20, and 22-31 remain pending in this application.

At least for the reasons set forth below, Applicants respectfully traverse the foregoing rejections. Further, Applicants believe that there are also reasons other than those set forth below why the pending claims are patentable, and reserves the right to set forth those reasons, and to argue for the patentability of claims not explicitly addressed herein, in future papers. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicants expressly do not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03.

Applicants respectfully request reconsideration of the present application in view of the above amendment and the following remarks.

Claim Rejection – 35 U.S.C. § 112

The Examiner rejected claim 24 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, claim 24 was rejected as having insufficient antecedent basis as claim 21 was previously cancelled. Thus, claim 24 has been amended to depend from independent claim 1. Withdrawal of the rejection is respectfully requested.

Claim Rejection – 35 U.S.C. § 103

1. Lürenbaum (DE725619) in view of Myers (U.S. Patent No. 6,811,633), and Holland (U.S. Patent No. 5,139,704)

Claims 1, 19-28, 30, and 31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lürenbaum in view of Myers and Holland. Applicant respectfully traverses the rejection.

Independent Claim 1

Independent claim 1 recites “securing the at least one balancing weight to the at least one location by soldering...wherein a flux-free solder is applied as a foil.” Lürenbaum, alone or in combination with Myers and Holland, fails to teach, suggest, or disclose at least this recitation of claim 1.

“To establish *prima facie* obviousness of a claimed invention, all the claim recitations must be taught or suggested by the prior art.” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). M.P.E.P. § 2143.03. *Accord*. M.P.E.P. § 706.02(j). The Examiner admits that “Lürenbaum does not specifically state that the shaft is hollow” and, therefore relies on Myers to teach joining balancing weights to a hollow driveshaft. Thus, the Examiner argues that “it would have been obvious to use the method of soldering balancing weights of Lürenbaum to balance the hollow driveshaft of Myers.” (*See* Office Action, p. 3). Applicants respectfully disagree with this position.

Applicants draw attention to Col. 5, lines 5-35 and FIG. 2 (reproduced below for Examiner’s convenience) of Myers. Myers teaches that an adhesive material is applied to the outer surface of the driveshaft section 17, the inner surface 44 of the balance weight 40, or both. When the balance weight 40 is pressed against the driveshaft section 17, a first portion of the adhesive material is extruded outwardly and a second portion is extruded upwardly. The first and second extruded portions are then exposed to an accelerated curing process in order to temporarily secure the balance weight 40 to the driveshaft section 17. (*See* Col. 5, lines 36-50). However, nowhere does Myers disclose soldering the balancing weight 40 to the driveshaft section 17. Moreover, when discussing

accelerated curing, Myers discloses that “ultraviolet radiation is a preferred accelerated curing process because it does not cause undesirable localized heating of the driveshaft.”

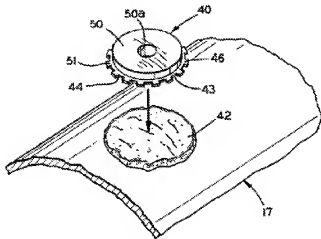


FIG. 2

Accordingly, not only does Myers fail to disclose soldering balance weight 40 onto the driveshaft section 17, it also teaches away from causing undesirable localized heating of the driveshaft when securing the balancing weight 40 to the driveshaft section 17. Therefore, it would not have been obvious to combine the method of soldering balancing weights disclosed in Lürenbaum to balance the hollow driveshaft of Myers. Holland also fails to make up for this inadequacy. Indeed, Holland fails to teach joining balancing weights to a hollow driveshaft.

Independent claim 1 also recites, in part, “wherein a flux-free solder is applied as a foil.” The Examiner admits that “Lürenbaum does not specifically disclose that the solder is a flux-less solder foil” and, therefore relies on Holland to teach flux-less solder foils. (See Office Action, p. 3). However, Applicants respectfully disagree with this position.

Holland is directed to a fluxless solder for application to metal surfaces, wherein the solder includes additives which remove contaminating oxides during the soldering process. (See Col. 2, lines 44-51). In the specification, Holland discloses “fluxless solder ingots, beads, wire or other configurations.” (See Col. 3, lines 25-28). Holland also discloses fluxless solder “sheets or other

free-standing structures.” (See Col. 3, lines 48-50). However, Holland does not teach, suggest or disclose flux-free solder foil. Moreover, Holland does not disclose “wherein a flux-free solder is applied as a foil” as recited in claim 1.

Myers also fails to cure at least this deficiency of Lürenbaum and Holland. That is, Myers does not teach, suggest, or disclose, at least, “wherein a flux-free solder is applied as a foil.” Indeed, as discussed above, Myers discloses an adhesive material applied to the outer surface of the driveshaft section 17, the inner surface 44 of the balance weight 40, or both. Nowhere in the specification does Myers teach, suggest, or disclose “wherein a flux-free solder is applied as a foil.”

Independent claim 1, as amended, also recites, in part, “securing the at least one balancing weight to the at least one location by soldering without a shielding gas.” (Emphasis added). Lürenbaum, alone or in combination with Myers and Holland, fails to teach, suggest, or disclose at least this recitation of claim 1.

As discussed above, Holland is directed to a fluxless solder for application to metal surfaces, wherein the solder includes additives which remove contaminating oxides during the soldering process. (See Col. 2, lines 44-51). Holland discloses a lead and tin based solder containing reducing agents such as lithium, calcium, strontium or cesium. The reducing agents react with interfering oxides on the surface of the metal to produce a surface that is suitable for being wetted by solder and/or an oxide-free solder. (See Col. 2, lines 20-55). However, as disclosed throughout the specification, the fluxless solders are used in argon, helium, nitrogen and vacuum atmospheres. (See at least Col. 4, lines 39-43; Col. 5, lines 4-8; Col. 6, lines 35-37; Col. 7, lines 3-6). Thus, the soldering process disclosed in Holland is conducted under a shielding gas atmosphere. Therefore, Holland fails to teach, suggest, or disclose “securing the at least one balancing weight to the at least one location by soldering without a shielding gas.” Moreover, Holland teaches away from using a flux-free solder in a soldering process without a shielding gas.

Myers fails to cure at least this deficiency of Holland. As previously discussed, Myers teaches an adhesive material applied to the outer surface of the driveshaft section 17, the inner

surface 44 of the balance weight 40, or both. However, Myers is not directed toward soldering nor does Myers disclose a soldering process. Therefore, Myers fails to teach, suggest, or disclose “securing the at least one balancing weight to the at least one location by soldering without a shielding gas.”

Lürenbaum also fails to cure at least this deficiency of Holland and Myers. As discussed in previous response, Lürenbaum is directed toward balancing unbalanced shafts. According to a machine translation of the text of Lürenbaum, to balance the shafts, imbalance masses are welded on in the form of a sheet metal on the shaft body, which can be soldered or glued. (See translation, lines 1-3.) However, Lürenbaum is silent regarding the non-use of a gas shield. Therefore, Lürenbaum fails to teach, suggest, or disclose “securing the at least one balancing weight to the at least one location by soldering without a shielding gas.”

Moreover, Applicants note that Holland discloses use of a solder alloy comprising tin and lead that is alloyed with a reducing agent like lithium, calcium, strontium, or cesium. (Col. 2, lines 21-24). Lead is prohibited from use in certain technical areas because of the medical risks it may present. The reducing agents disclosed in Holland may also present certain environmental risks. Therefore, it would not be obvious to use Holland in applications related to vehicles.

Dependent Claims 19-20 and 22-27

Dependent claims 19-20 and 22-27 are patentable at least by virtue of their direct or indirect dependence on patentable independent claim 1. In addition, the dependent claims also recite additional features that are independently patentable over Lürenbaum in view of Myers and Holland.

For example, dependent claim 30 recites “wherein at least a balancing of the hollow shaft and the soldering of the at least one balancing weight are carried out on a single machine.” The Examiner admits that “Lürenbaum does not disclose that the balancing of the hollow shaft and the soldering of the at least one balancing weight are carried out on a single machine” and, therefore

relies on Myers. However, the Examiner further admits “Myers does not specifically state that the weights are joined to the shaft while on the balancing machine.” Nonetheless, the Examiner takes the position that “the shaft is still on the balancing machine because Myers does not disclose removing the shaft from the machine until after it is rebalanced.” (See Office Action, p. 6).

This argument is insufficient to establish a *prima facie* case of obviousness. The Examiner must establish that all of the claim recitations are taught or suggested in the prior art. To meet this burden, the Examiner cannot interpret Myers as verification that Myers indeed discloses that the weights are joined to the shaft while on the balancing machine. The Examiner must show that “at least a balancing of the hollow shaft and the soldering of the at least one balancing weight are carried out on a single machine.”

Independent Claim 31

Independent claim 31 has been amended to recite, in part, “securing the at least one balancing weight to the at least one location by brazing without a shielding gas.” Lürenbaum, alone or in combination with Myers and Holland, also fail to teach, suggest, or disclose at least this recitation of claim 31. The arguments presented above with respect to claim 1 are equally applicable here. Therefore, independent claim 31 is patentable over Lürenbaum in view of Myers and Holland. Applicants respectfully request that the rejection of the claim be withdrawn.

2. Lürenbaum (DE725619 Myers, Holland, and Porter (U.S. Patent No. 2,914,942)

Claim 29 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lürenbaum, Myers, and Holland, and in further view of Porter.

Dependent claim 29 is directly dependent on independent claim 1. The remarks presented above with respect to the combination of Lürenbaum, Myers, and Holland are equally applicable here. That is because Porter also fails to disclose “securing the at least one balancing weight to the at least one location by soldering without a shielding gas.” In fact, Porter actually teaches an

apparatus having “a controlled atmosphere permitting assemblies to be soldered or brazed by induction heating.” (See Column 1, lines 15-18). Accordingly, Porter fails to cure at least this deficiency of Lürenbaum, Myers, and Holland

Therefore, dependent claim 29 is patentable at least by virtue of its dependence on independent claim 1. In addition, dependent claim 29 recites additional features that are independently patentable. Accordingly, withdrawal of the rejection is respectfully requested.

CONCLUSION

Reconsideration and allowance of the claims as presented are respectfully requested. In view of the above amendments and remarks, Applicants believe the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. 66969-0004 from which the undersigned is authorized to draw.

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Respectfully submitted,

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